

**REMARKS*****Summary of the Amendment***

Upon entry of the above amendment, claims 1, 12, 21, and 39 will have been amended and claim 10 will have been canceled without prejudice or disclaimer. Accordingly, claims 1 – 46 currently remain pending. However, as the Examiner has withdrawn claims 2 and 38 – 46, directed to the non-elected invention, and claims 16, 23 – 33 and 35 – 37, directed to the non-elected species, from consideration, only claims 1, 3 – 15, 17 – 20, 22, and 34 are currently under consideration by the Examiner.

***Summary of the Official Action***

In the instant Office Action, the Examiner has made the Restriction Requirement of May 11, 2006 final and withdrawn claims 2 and 38 – 46, directed to the non-elected invention, and claims 16, 23 – 33 and 35 – 37, directed to the non-elected species, from consideration. Further, the Examiner has indicated claim 21 contains allowable subject matter and would be allowable if presented in an independent form that includes all the features of its base claim and any intervening claims and has rejected claims 1, 3 – 15, 17 – 20, 22, and 34 over the art of record. By the present amendment and remarks, Applicant submits the rejections have been overcome, and respectfully requests reconsideration of the outstanding Office Action and allowance of the present application.

***Acknowledgment of Allowable Subject Matter***

Applicant gratefully acknowledges the indication claim 21 contains allowable subject matter and would be allowable if presented in an independent form that

includes all the features of its base claim and any intervening claims. Accordingly, by the present amendment, claim 21 has been presented in independent and allowable form.

Accordingly, Applicant requests the Examiner confirm independent claim 21 is allowed in the next official action.

***Telephonic Interview with Examiner Jimenez***

Applicant gratefully acknowledges the courtesy extended to his representative by the Examiner in conducting a telephonic interview on October 19, 2006. In the interview, the instant amendment to independent claim 1 was discussed, as was the amendment to present claim 12 into independent form. With regard to these amendments, Applicant pointed out that a natural or critical frequency results from the constructive parameters of the roll or system, e.g., dimensions, stiffness, construction materials, and such a frequency can be measured or calculated. Thus, the natural or critical frequency is based on the construction of the roll or system, not its use or operation. In other words, while operation of the roll or system will cause vibrations, the natural or critical frequency of the roll or system does not change during operation.

Applicant further pointed out that, when the natural or critical frequency is known, the applied art of record, as well as conventional wisdom, provide vibration damping at this natural or critical frequency to avoid roll, system, or product damage. In contrast to this teaching, the instant invention is set to damp vibrations below the natural or critical frequency of the roll or system, as now recited in at least independent claims 1 and 12. As discussed with the Examiner, the lower frequency is chosen to prevent the formation of a wave pattern at the circumference of the roll, which the inventors have

found occurs if the wave pattern fits around the circumference with a full number of periods. Thus, it is this vibration frequency below the natural or critical frequency the pending claims recite, which is neither taught nor suggested in any of the applied art of record.

***Traversal of Rejection Under 35 U.S.C. § 102(b)***

Applicant traverses the rejection of claims 1, 3, 4, 7, 10 – 15, 17 – 20, 22, and 34 under 35 U.S.C. § 102(b) as being anticipated by CHRIGUI (U.S. Patent No. 5,595,117). The Examiner asserts Figure 6 of CHRIGUI shows the recited features of the rejected claims. Applicant traverses the Examiner's assertions.

By way of background, Applicant notes the present invention is directed to a calender roll and to a calender including such a calender roll. As is generally known, the roll stack of a calender not only has end rolls, but also middle rolls or intermediate rolls, which are respectively adjacent to one another to form a nip through which a web, in particular a paper web, is guided. In each nip the web is acted on with a certain pressure and often also with an increased temperature. Customarily, the nips are embodied as so-called "soft" nips, which are formed by a hard roll with a non-yielding surface and a soft roll with a more yielding surface.

After a certain operating time, a so-called "barring" has been observed to occur on the produced paper web, i.e., cross stripes begin to form on the paper web. At the latest by the time when these cross stripes become visible, the paper web is a reject and has to be disposed of. Accordingly, one tries to avoid these barrings, since at the latest by the time when these stripes occur the respective roll must be removed, ground off and installed again.

To address this drawback of the known art, Applicant's independent claim 1 recites, *inter alia*, an absorber arrangement comprising at least one passive vibration absorber located within the interior space, wherein said *vibration absorber has an absorber frequency that lies below a natural frequency of said roll*. Further, Applicant's independent claim 12 recites, *inter alia*, an absorber arrangement comprising at least one passive vibration absorber located within the interior space, wherein said *vibration absorber has an absorber frequency that lies below a natural frequency of a roll system comprising said roll*. Applicant submits CHRIGUI fails to disclose at least the above-noted features of the invention.

As discussed with Examiner Jimenez in the telephonic interview of October 19, 2006, a natural or critical frequency for a roll or system results from the constructive parameters of the roll or system, e.g., dimensions, stiffness, construction materials. As this frequency is established by constructional and not operational aspects, the frequency can be measured or calculated so as to be known prior to operation.

CHRIGUI discloses a method and a device for damping bending vibrations of cylinders in a printing press. While Applicant acknowledges the absorber arrangement disclosed by CHRIGUI exhibits certain similarities to the claimed invention, CHRIGUI expressly discloses the damper is adjusted exactly to the natural frequency or the natural frequencies, see column 5, lines 8, 9 and 59, 60 and column 8, lines 1 through 10 of CHRIGUI.

Accordingly, Applicant submits CHRIGUI fails to provide any disclosure of a *vibration absorber having an absorber frequency that lies below a natural frequency of said roll*, as recited in independent claim 1, or of a *vibration absorber having an*

*absorber frequency that lies below a natural frequency of a roll system including the roll,*  
as recited in independent claim 12.

While the Examiner asserts the natural frequency and the absorber frequency are recitation of intended use not entitled to patentable weight, Applicant submits, for the reasons stated above, this assertion is incorrect. As discussed above, the natural frequency is established by the construction of the roll or system not its operation, and the absorber frequency likewise is established by the construction of the absorber, as described in the instant application.

Because CHRIGUI fails to disclose at least the above-noted features of the invention, Applicant submits this document fails to show each and every recited feature of Applicant's invention. Accordingly, Applicant submits CHRIGUI fails to provide an adequate evidentiary basis to support a rejection of anticipation under 35 U.S.C. § 102(b), and the rejections should be reconsidered and withdrawn.

Further, Applicant submits that claims 3, 4, 7, 11, 13 – 15, 17 – 20, 22, and 34 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicant submits that CHRIGUI fails to anticipate the features recited in claims 3, 4, 7, 11, 13 – 15, 17 – 20, 22, and 34.

Accordingly, Applicant requests the Examiner reconsider and withdraw the rejection of claims 1, 3, 4, 7, 11 – 15, 17 – 20, 22, and 34 under 35 U.S.C. § 102(b) and indicate these claims are allowable.

***Traversal of Rejection Under 35 U.S.C. § 103(a)***

1. **Over Chrigui**

Applicant traverses the Examiner's rejection of claims 5 and 6 under 35 U.S.C. § 103(a) as being unpatentable over CHRIGUI. The Examiner asserts it would have been an obvious design choice to modify the specific mass of the vibration absorber. Applicant traverses the Examiner's assertions.

As discussed above, CHRIGUI fails to disclose the features recited in at least independent claim 1. Moreover, as CHRIGUI expressly discloses adjusting the damper to exactly the natural frequency or the natural frequencies, see column 5, lines 8, 9 and 59, 60 and column 8, lines 1 through 10 of CHRIGUI, this document fails to provide any teaching or suggestion for a *vibration absorber having an absorber frequency that lies below a natural frequency of said roll*, as recited in independent claim 1.

Moreover, as CHRIGUI only discloses adjusting the damper to the natural frequency, this document fails to provide the requisite motivation or rationale for modifying this express disclosure in any manner that would render unpatentable the invention recited in at least independent claim 1.

Because CHRIGUI fails to teach or suggest the above-noted features of the instant invention, Applicant submits the applied art fails to render unpatentable the combination of features recited in at least independent claim 1.

Further, Applicant submits that claims 5 and 6 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper modification of CHRIGUI renders unpatentable the combination of features recited in claims 5 and 6.

Accordingly, Applicant requests the Examiner reconsider and withdraw the

rejection of claims 5 and 6 under 35 U.S.C. § 103(a) and indicate these claims are allowable.

2. Over *Chrigui* in view of *Kayser*

Applicant traverses the Examiner's rejection of claims 8 and 9 under 35 U.S.C. § 103(a) as being unpatentable over CHRIGUI in view of KAYSER et al. (U.S. Patent No. 6,464,834) [hereinafter "KAYSER"]. While acknowledging CHRIGUI fails to show more than one vibration absorber, the Examiner asserts it would have been an obvious to include more than one such absorber, as taught by KAYSER. Applicant traverses the Examiner's assertions.

As discussed above, CHRIGUI fails to disclose the features recited in at least independent claim 1. Moreover, as CHRIGUI expressly discloses adjusting the damper to exactly the natural frequency or the natural frequencies, see column 5, lines 8, 9 and 59, 60 and column 8, lines 1 through 10 of CHRIGUI, this document fails to provide any teaching or suggestion for a *vibration absorber having an absorber frequency that lies below a natural frequency of said roll*, as recited in independent claim 1.

Further, Applicant submits KAYSER shows a calender roll and a method for operating a calender roll, with which a roll has a roll jacket 1 in which a mass 9 is arranged that can be accelerated in different directions by actuators 8. However, in contrast to CHRIGUI, this absorber is an active, not a passive, absorber.

Further, Applicant notes KAYSER, like CHRIGUI, fails to provide any teaching or suggestion of an absorber frequency selected below the natural frequency. In fact, as KAYSER discloses in column 3, lines 31 – 44 that a sensor arrangement is provided which determines the current vibrations of the roll, and as the current vibrations of the

roll are primarily the critical natural frequencies, Applicant submits the active absorber disclosed by KAYSER operates in the vibration area of the natural frequencies, like CHRIGUI.

As neither applied document teaches or suggests a *vibration absorber having an absorber frequency that lies below a natural frequency of said roll*, as recited in independent claim 1, Applicant submits no proper combination of these documents can render unpatentable the invention. Further, as KAYSER discloses active damping and CHRIGUI discloses passive damping, Applicant submits the art of record fails to provide the necessary motivation or rationale for combining the teachings of these documents in any obvious manner that would render unpatentable the invention recited in at least independent claim 1.

Further, Applicant submits that claims 8 and 9 are allowable at least for the reason that these claims depend from allowable base claims and because these claims recite additional features that further define the present invention. In particular, Applicant submits that no proper combination of CHRIGUI in view of KAYSER renders unpatentable the combination of features recited in claims 8 and 9.

Accordingly, Applicant requests the Examiner reconsider and withdraw the rejection of claims 8 and 9 under 35 U.S.C. § 103(a) and indicate these claims are allowable.

3. Over Chrighui in view of Gerstenberger

Applicant traverses the Examiner's rejection of claim 15 under 35 U.S.C. § 103(a) as being unpatentable over CHRIGUI in view of GERSTENBERGER et al. (U.S. Patent No. 6,464,834) [hereinafter "GERSTENBERGER"]. While acknowledging



CHRIGUI fails to show a roll shaped vibration absorber, the Examiner asserts it would have been an obvious to include such an absorber, as taught by GERSTENBERGER. Applicant traverses the Examiner's assertions.

As discussed above, CHRIGUI fails to disclose the features recited in at least independent claim 1. Moreover, as CHRIGUI expressly discloses adjusting the damper to exactly the natural frequency or the natural frequencies, see column 5, lines 8, 9 and 59, 60 and column 8, lines 1 through 10 of CHRIGUI, this document fails to provide any teaching or suggestion for a *vibration absorber having an absorber frequency that lies below a natural frequency of said roll*, as recited in independent claim 1.

Further, Applicant submits GERSTENBERGER shows a device for damping bending vibrations in a printing cylinder of a rotary press, whereby the damper has a natural frequency that corresponds to the natural frequency of the printing cylinder (see, e.g., abstract, lines 5, 6).

Further, Applicant notes GERSTENBERGER, like CHRIGUI, fails to provide any teaching or suggestion of an absorber frequency selected below the natural frequency. In fact, as GERSTENBERGER is silent as absorber frequency, there is no teaching or suggestion for an absorber frequency below the natural frequency.

As neither applied document teaches or suggests a *vibration absorber having an absorber frequency that lies below a natural frequency of said roll*, as recited in independent claim 1, Applicant submits no proper combination of these documents can render unpatentable the invention. Further, as GERSTENBERGER discloses active damping and CHRIGUI discloses passive damping, Applicant submits the art of record fails to provide the necessary motivation or rationale for combining the teachings of

these documents in any obvious manner that would render unpatentable the invention recited in at least independent claim 1.

Further, Applicant submits that claim 15 is allowable at least for the reason that it depends from an allowable base claims and because it recites additional features that further define the present invention. In particular, Applicant submits that no proper combination of CHRIGUI in view of GERSTENBERGER renders unpatentable the combination of features recited in claim 15.

Accordingly, Applicant requests the Examiner reconsider and withdraw the rejection of claim 15 under 35 U.S.C. § 103(a) and indicate these claims are allowable.

#### Request for Rejoinder of Withdrawn Claims

As independent claim 1 has been shown to be allowable, and as this claim is likewise generic to each identified species, Applicant requests the Examiner rejoin withdrawn claims 16, 23 – 33 and 35 – 37, directed to the non-elected species, consider the merits of the same, and indicate their allowability in the next official action.

Moreover, as claims 2 and 38, directed to the non-elected invention, depends from allowable claim 1, Applicants submit these claims should likewise be rejoined, considered on their merits, and indicated as allowable in the next action.

Further still, as the Examiner will have considered the combination of features recited in independent claim 39, rejoinder and examination of claim 39, as well as of claims 40 – 46, which depend therefrom, is likewise requested.

Accordingly, Applicants requests rejoinder, consideration and allowance of the currently withdrawn claims.

***Application is Allowable***

Thus, Applicants respectfully submit that each and every pending claim of the present invention meets the requirements for patentability under 35 U.S.C. §§ 102 and 103, and respectfully request the Examiner to indicate allowance of each and every pending claim of the present invention.

***Authorization to Charge Deposit Account***

The undersigned authorizes the charging of any necessary fees, including any extensions of time fees required to place the application in condition for allowance by Examiner's Amendment, to Deposit Account No. 19 - 0089 in order to maintain pendency of this application.

**CONCLUSION**

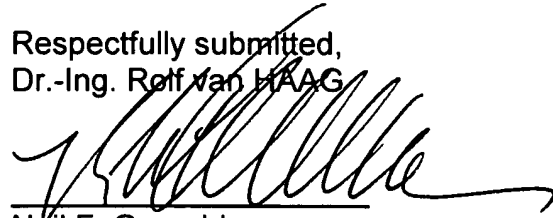
In view of the foregoing, it is submitted that none of the references of record, either taken alone or in any proper combination thereof, anticipate or render obvious the Applicants' invention, as recited in each of claims 1 – 9 and 11 – 46. The claims have been amended to eliminate any arguable basis for rejection under 35 U.S.C. § 112. In addition, the applied references of record have been discussed and distinguished, while significant claimed features of the present invention have been pointed out.

Further, any amendments to the claims which have been made in this response and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

Accordingly, reconsideration of the outstanding Office Action and allowance of the present application and all the claims therein are respectfully requested and now

believed to be appropriate.

Respectfully submitted,  
Dr.-Ing. Rolf van HAAG



Neil F. Greenblum  
Reg. No. 28,394

Robert W. Mueller  
Reg. No. 35,043

October 24, 2006  
GREENBLUM & BERNSTEIN, P.L.C.  
1950 Roland Clarke Place  
Reston, VA 20191  
(703) 716-1191